-9-

REMARKS

This amendment is in response to the Final Office Action mailed January 12, 2006. In the Office Action the Examiner rejected all claims. With this amendment claims 1, 25 and 35 are amended, claims 3-5, 8, 9, 11, 12 30-32, and 40-42 are cancelled and the remaining claims are unchanged. Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

On page 2 of the office action the Examiner indicated that a reference related to a number frames, such as that used in film or video, is applicable to a claim and invention related to a single frame. While the Examiner is correct in this assertion, the Examiner must consider the applicant's preamble when so called upon by the applicant. See MPEP §2111.02. Specifically, the applicant's claims are directed towards modifying a single frame using a number of different images representative of both feature points and geometric components. This set of images is not the same as additional frames used in film or video.

On page 3 of the office action the examiner rejected claim 1 under 35 USC §103(a) as being unpatentable over Yonezawa, US Patent Application Publication No. 2001/0036860, in view of Moulton et al., US Patent Application Publication No. 2002/0097380. The applicant has reviewed the cited references and must respectfully disagree.

First of all with the present amendments the applicant has amended claim 1 to include the limitations of dependent claims 3-5. As the Examiner did not reject dependent claims 3-5 under the above rejection and for this reason alone the applicant asserts that the rejection has been overcome.

Secondly, a careful review of the cited references in view of the amended claims clearly shows that neither Yonezawa nor Moulton taken alone or in combination teach or suggest the blending of textures across subregions within a given image. Specifically, Yonezawa teaches a method of morphing the mouth and the eyes in a video game to convey an emotion. Yonezawa relies on common methods of morphing shapes using feature points on the shape area being

-10-

morphed, through a series of images, from one shape to another. Yonezawa does not teach or suggest subregions (let alone a plurality of them) or blending the features at the boundaries between any subregion in a single image. Further, Yonezawa does not teach the use of multiple images other than the beginning and ending image. All images that fall between the beginning image and the ending image are generated using standard shape morphing techniques. Moulton teaches a method of editing film for dubbing. Moulton teaches taking the actor into a studio and having them speak the specific lines that are to be dubbed into the film. This process is taped from several angles so that when modifications to the original film occur the appropriate angle can be selected. After all of the words have been recorded, the original film is modified by taking the later recorded images and modifying the existing image by placing a wire mesh of the new image over the existing image. Then the existing image is altered by incorporating the wire mesh area over the mouth and lips so that the image now shows the appropriate mouth movements for the dubbed speech. However, there is no teaching or suggestion in the Moulton reference to divide the image into a plurality of subregions, or blending the features or textures at the boundaries of each of the subregions in a single image. Therefore, it is respectfully submitted that neither Yonezawa nor Moulton taken singly or in combination with each other teach or suggest the features of independent claim 1 as amended. Reconsideration and withdrawal of the rejection are respectfully requested.

On page 6 of the office action the Examiner rejected claims 1-14 and 24-25 under 35 USC§103(a) as being unpatentable over Cosatto et al. (E. Cosatto and H. Graf, "Photorealistic Talking-Heads from Image Samples in view of Moulton. The applicant respectfully disagrees with the Examiner's assertion.

In the previous office action the Examiner rejected the above claims under 35 USC §102. The applicant reasserts the arguments made in the previous amendment vis-à-vis the Cosatto reference. Specifically, Cosatto et al. merely blends <u>different parts of the face together to form a face</u>. Cosatto et al. do not generate anything equivalent to the geometric component as recited by claim 1, and certainly do not generate the geometric component from a set of representative images, where each image of the set has the identified feature points. In other words the set of

-11-

images is not different parts of the face as used in Cosatto et al., rather it is variations of images having the same feature points. Moulton does not provide this deficiency.

Further, as claims 1 and 25 have been amended to include additional features there are additional features not taught or suggested by the references. Specifically, claims 1 and 25 include limitations of their respective dependent claims. In particular the limitation of blending the texture at the boundaries of the plurality of subregions has been added. As discussed above Moulton does not teach or suggest this feature of the independent claims. Cosatto et al. do not provide the deficiency in the Moulton reference, nor does it teach or suggest such a solution. Therefore, the applicant asserts that neither Cosatto nor Moulton teach or suggest, alone or in combination the features of independent claims 1 or 25 as amended. Reconsideration and withdrawal of the rejection are respectfully requested.

On page 12 of the Office Action the Examiner relies upon Cosatto et al. as the basis for rejecting claims 13 and 14. Claim 13 recites that the position of at least one feature point is ascertained from the change in position of another feature point, while claim 14 recites that the position of a feature point is ascertained from a change in position of another feature point with respect to sets of feature points. For the reasons discussed above with respect to claim 1 it is submitted that claims 13 and 14 are separately patentable because they add a further feature not disclosed by a combination of the cited references. In particular, the combination of Cosatto et al. and Moulton do not teach or suggest rendering subregions by blending images for a set of representative images based on geometric components for each overall image. Claims 13 and 14 include the additional limitation of ascertaining feature points from a change in position of another feature point, which in combination is not taught or suggested by the cited references.

On page 14 of the Office Action the Examiner rejected claims Claims 15-23 and 25-43 under 35 USC §103(a) as being unpatentable over Cosatto et al. in view of Moulton in further view of Chai et al. ("Vision-Based Control of 3D Animation"). The applicant has reviewed the Chai reference and must respectfully disagree.

As discussed above neither Cosatto et al. nor Mouton teach, suggest or use a geometric component in a manner recited by claim 1. The Chai et al. reference does not remedy this

-12-

deficiency. Therefore, any further features recited by these claims pertaining to the geometric component directly or indirectly are also not taught or suggested, and thereby, in combination are separately patentable. Further, the Chai reference does not teach the feature of blending the texture at the boundaries of the plurality of subregions within a single image. In fact Chai makes no reference to subregions or blending within a single image. Therefore it is respectfully submitted that claims 15-23 and 25-43 are allowable over Cosatto, in view of Moulton in further view of Chai. Reconsideration and withdrawal of the rejection are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: _____
Steven M. Koehler, Reg. No. 36,188
Suite 1400 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

SMK:NMR:mek